
RESPONSES TO COMMENTS ON THE DRAFT 2010 SFER – VOLUME I, CHAPTER 2

Wossenu Abtew with Chapter Co-Authors

Level of Panel Review: Accountability (primary); Integrative (secondary)

Reviewers: O. Stein (AA), N. Armstrong (A)

The purposes of the Hydrology chapter in the South Florida Environmental Report are:

1. To provide a stand-alone document on the water year hydrology of the region with adequate background on the water management system and the region's hydrology
2. Document extreme hydrology and water management impacts
3. Provide essential details on the hydrology to satisfy external and internal customers' requests for specific hydrologic data needs. Such requests are resource intensive to fulfill
4. To provide a reference material on the region's hydrology for internal use
5. To provide consistent hydrologic data and analysis to share with authors of other chapters of SFER and maintain consistency

The authors of Chapter 2 appreciate the reviewers' recommendation to develop dashboard metrics for the report. We acknowledge that dashboard metrics have become a common management tool in many different types of organizations. After similar comments were made by the reviewers for the 2009 SFER, development of dashboard metrics were discussed with the peer review panel and subsequently with District staff. In a complex system, where numerous water management decisions are made at each geographic area and hydrologic unit in any given time, it is our conclusion that such information is not adaptable to summary in a dashboard matrix. Multi-agency involvement in operational decision making adds to the complexity. District staff feels that this matter has been sufficiently addressed.

Repetitions

There are some words or phrases repeated in the chapter. In order for each section to be read independently, some words or phrases are used more than once. The phrases are cited few times with reference to different sections, regions or hydrologic units. We have checked for appropriate use of the mentioned phrases in the chapter.

Linkage to management goals and objectives

In the chapter, where ever it is relevant, other chapters are pointed for more or related information. The objectives are many and intertwined. It is not simple to develop a table like Table 8-1. Table 8-1 deals with a narrow subject, projects, compared to Chapter 2. Chapter 1 is a better chapter where linkage between chapters can be summarized. As we have responded to this comment previously, it is more appropriate to discuss the effect of the hydrology on water quality in the Water Quality Chapter, on STAs, to be discussed in the STA Chapter, on Coastal Ecosystems, to be discussed in the Coastal Ecosystem Chapter, etc. In the Summary of Chapter 2, we will add a table with related chapters.

“Further details on the state of specific hydroecological units are available in other chapters in the 2010 South Florida Environmental Report as follows:

- Chapter 4 The Everglades Agricultural Area
- Chapter 5 Stormwater Treatment Areas
- Chapter 6 The Everglades Protection Area
- Chapter 10 Lake Okeechobee
- Chapter 11 Kissimmee Basin”

As we have responded to this comment previously, it is more appropriate for the effect of the hydrology on water quality to be discussed in the Water Quality Chapter, on STAs, to be discussed in the STA Chapter, on Coastal Ecosystems, to be discussed in the Coastal Ecosystem Chapter, etc.

The new regulation schedule for Lake Okeechobee

Concerning the new regulation schedule for Lake Okeechobee, the discussion is expanded and the decision making process to release water in to the WCAs and the estuaries is presented in Figure 2-29 and 2-30 (new additions).

The 2008 Lake Okeechobee Regulation Schedule (LORS2008)

A new regulation schedule (USACE, 2008) for Lake Okeechobee was adopted on May 1, 2008, which was implemented in WY2009 (**Figure 2-28**). The new regulation schedule is divided into three major bands: High Lake Management Band, Operational Band and Water Shortage Management Band. In the High Lake Management Band, outlet canals may be maintained above the optimum water management elevations. In the Operational Band, outlet canals should be maintained within their optimum water management elevations. In the water Shortage Management Band, outlet canals may be maintained below optimum water management elevations. The new regulation schedule was developed by the U.S. Army Corps of Engineers based on considerations of:

- The Caloosahatchee and St. Lucie estuaries environmental needs
- Lake Okeechobee ecology and environmental needs
- The Everglades (including the ENP) environmental needs
- Structural integrity of the Herbert Hoover Dike and potential danger from hurricane seasons

The new regulation schedule attempts to balance the multi-purpose objectives of flood control, water supply, navigation, enhancement of fish and wildlife resources and recreation. The new regulation schedule dominant objective is the public health and safety related to the Herbert Hoover Dike structural integrity. The 2008 LORS has expanded operational flexibility throughout the year and allows Lake Okeechobee to be managed at lower levels than the previous regulation schedule. The regulation schedule is implemented through decision trees that consider current water Lake Okeechobee water level, WCAs water levels, tributary hydrologic conditions, multi-season climatic and hydrologic outlook and estuary conditions (USACE, 2008). **Figure 2-29** depicts the decision tree to establish allowable Lake Okeechobee releases to the Water Conservation Areas. **Figure 2-30** depicts the decision tree to establish allowable Lake Okeechobee releases to tide (estuaries). Lake Okeechobee water level on the day of decision is the starting point for decision making.

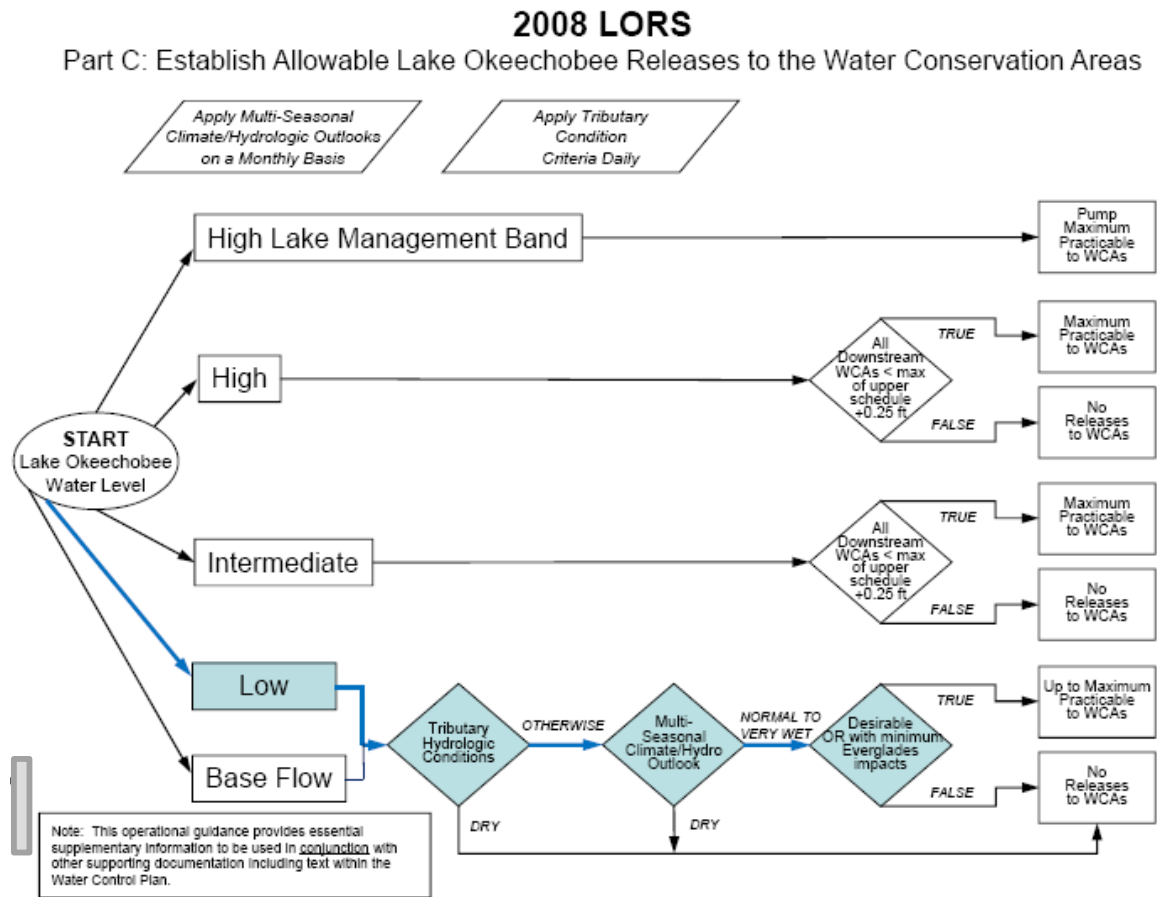


Figure 2-29. Decision tree for Lake Okeechobee water releases to the WCAs (USACE, 2008, Figure 7-3).

2008 LORS

Part D: Establish Allowable Lake Okeechobee Releases to Tide (Estuaries)

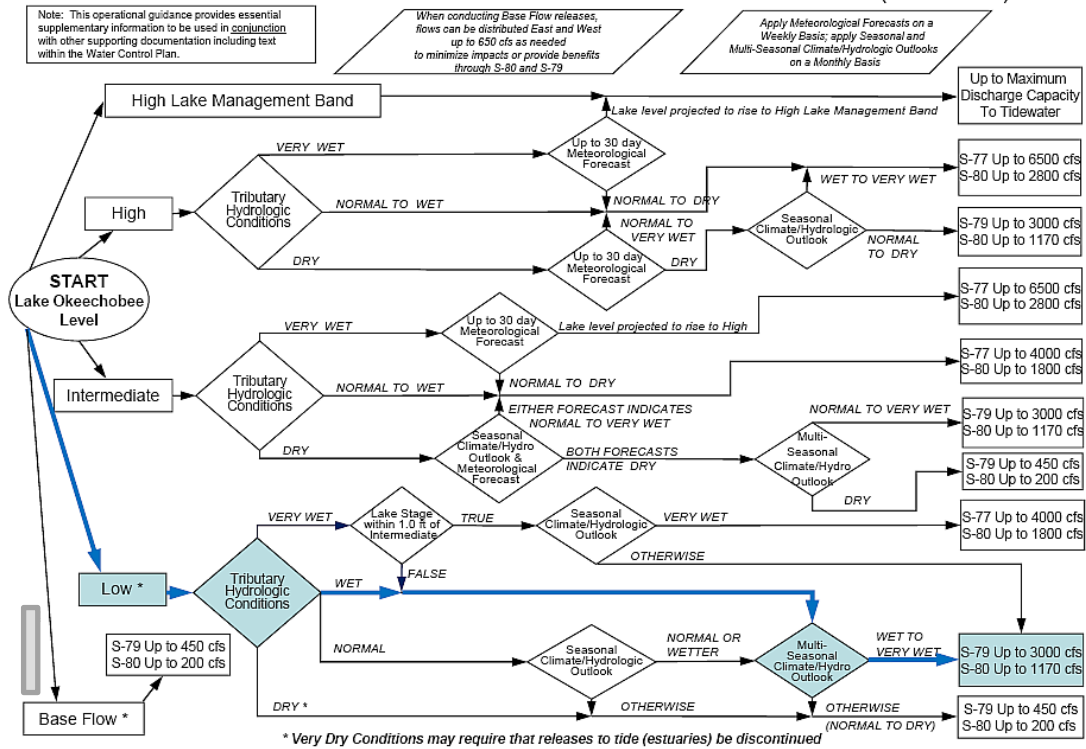


Figure 2-30. Decision tree for Lake Okeechobee water releases to the estuaries (USACE, 2008, Figure 7-4).

Concerning the overview and following details

Following the panel's recommendation, the format of the chapter for the coming water year will be revised as follows:

1. SUMMARY
2. INTRODUCTION (Overview)
3. WATER MANAGEMENT
 - 3.1 Water Management Goals, Objectives and Constraints
 - 3.2 Water Management Infrastructure and Structure Maintenance
 - 3.2 Major Water Management Operations in Current Water Year
4. WATER YEAR HYDROLOGY
 - 4.1 Major Hydrologic Events (Tropical Storms, Drought, Flooding)
 - 4.2 Details of Water Year Hydrology
5. CONCLUSIONS
6. LITERATURE CITED

Specific Questions

1:31-38 deficits are annual; clarification added.

Figure and Table comments

Figure 2-12 and 2-13; legends are improved and are now legible.

Figure 2-21

The following additional discussion will be added citing the two regulation schedules and the management decisions.

“Figure 2-21 shows both the current and previous regulation schedules for Lake Okeechobee. The previous schedule goes through April 30, 2008 and the current schedule starts on May 1, 2008 with the respective water management zones shown in the figure. Lake Okeechobee daily average water level time series line in the figure is coded with colors that match the corresponding estuary releases shown in the legends. Also, management decisions are shown on the figure with the respective date of decision. The new regulation schedule is distinct with lower maximum levels. “

Editorial page and line comments

2:12 changed as suggested

26:506 changed as suggested

41:723-732: the following footnote is added to Table 2-12.

“Note: The new regulation schedule (LORS-2008) as described in the water control plan is not limited to these 3 traditional pulse levels. Rather it has the ‘flexibility’ to discharge pulses of variable duration and shape. Please see Figure 2-30 for estuary releases decision making under the current regulation schedule.”